

WHAT IS CLAIMED IS:

1. A superconducting magnet comprising superconducting coils; coil containers, each of said coil container containing said superconducting coil together with coolant; and a refrigerator for cooling said coolant, said coil containers being arranged separately from
5 and opposite to each other, a magnetic field space being formed between both of said coil containers, wherein
a coolant tank for supplying the coolant to said coil containers is provided separately from said coil containers, and said refrigerator is placed in said coolant tank, a coolant circulation passage connects between said coolant tank and said coil containers,
10 cylindrical spaces are defined in said coil container, and magnetic poles formed from ferromagnetic bodies are arranged within said cylindrical spaces.
2. A superconducting magnet according to claim 1, wherein a ferromagnetic member is arranged on a surface in a reverse side of an opposite surface of each of said
15 coil containers.
3. A superconducting magnet according to any one of claims 1, 2 and 3, wherein a connecting passage connects between said coil containers each other, and lead wires connecting said superconducting coils in said coil containers to each other pass through
20 the inside of said connecting passage.
4. A superconducting magnet according to any one of claim 1, wherein a flexible portion is provided in an intermediate portion of said coolant circulation passage.
- 25 5. A superconducting magnet comprising superconducting coils; coil containers, each of said coil container containing said superconducting coil together with coolant; and a refrigerator for cooling said coolant, said coil containers being arranged separately from

and opposite to each other, a magnetic field space being formed between both of said coil containers, wherein

a coolant tank for supplying the coolant to said coil containers is provided separately from said coil containers, and an amount of said coolant in said coil container is
5 a necessary minimum amount for maintaining superconducting coil in superconducting state.

6. A superconducting magnet comprising superconducting coils; coil containers, each of said coil container containing said superconducting coil together with coolant; and
10 a refrigerator for cooling said coolant, said coil containers being arranged separately from and opposite to each other, a magnetic field space being formed between both of said coil containers, wherein

cylindrical spaces are defined in said coil container, and magnetic poles formed from ferromagnetic bodies are arranged within said cylindrical spaces, and an angle of
15 visibility in vertical direction defined by said magnetic poles as viewing an opening portion of upper and lower coil containers from a center of said superconducting magnet, is greater than or equal to 30 .

7. A superconducting magnet according to claim 4 or 5, wherein a connecting
20 passage connects between said coil containers each other, and lead wires connecting said superconducting coils in said coil containers to each other pass through the inside of said connecting passage.

8. A superconducting magnet comprising superconducting coils; coil containers,
25 each of said coil container containing said superconducting coil together with coolant; and a refrigerator for cooling said coolant, said coil containers being arranged separately from and opposite to each other, a magnetic field space being formed between both of said coil

containers, wherein

a coolant tank for supplying the coolant to said coil containers is provided separately from said coil containers, said coil container and said coolant tank are connected to a coolant passage, a crossover from said superconducting coil is arranged
5 within said coolant tank, and said crossover and a permanent current switch are connected within said coolant tank.

9. A magnetic resonance imaging apparatus comprising the superconducting magnets described in any one of claims 1 to 8; a bed capable of mounting a body to be
10 inspected and moving between said coil containers of said superconducting magnets opposite to each other; and a control unit for analyzing a nuclear magnetic resonance signal from the body to be inspected.